REMARKS

Reconsideration of the above-identified application is respectfully requested.

The present invention relates to a novel cosmetic composition containing water-soluble β-(1,3)-glucans, substantially free from β-(1,6) linkages and chitosans. There are many uses for the novel compositions, however, two methods of treatment are being disclosed and claimed herein. A method of treating aging of the skin and a method of treating skin roughness. New claims are being added to the application to clearly define the invention. Support for these new claims is found throughout the specification, specifically pages 2-5 of the application, and in the examples.

Original Claim 10 has been rejected under 35 USC §101 for containing non-statutory subject matter. The claim has been deleted. Therefore, the rejection should be withdrawn.

Claims 3, 4 and 10 have been rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and claim the subject matter of the invention. The term "loosened" in Claim 3, line 3, according to the Examiner has no recognized meaning in the chemical arts. Further, the Examiner believes that Claim 10 fails to set forth any steps involved in a method or process. Claims 3 and 10 have been deleted. Therefore, the rejections should be withdrawn.

Claims 1-10 have been rejected under 35 USC §103(a) as being unpatentable over Zulli et al. in view of the Weitkemper et al. references. It is the Examiner's opinion that the Zulli et al. reference teaches water-soluble β-(1,3) glucans and their use in cosmetic compositions and directs the reader to the abstract and Claim 5. The Examiner even points out that the glucans disclosed by the Zulli et al. reference do not have β-(1,6) linkages. While the Zulli et al. reference teaches a water-soluble β-(1,3) glucan without β-(1,6) linkages used in cosmetic preparations, the Zulli et al. reference discloses a glucan which is different than the claimed invention. The glucan of the Zulli et al. reference is an unbranched glucanether derivate. More specifically, the Zulli et al. reference has combined carbon 6 of the glucose units via an ether bond, with a functional group. In contrast, the presently claimed glucan is a non-derivative branched glucan. As Applicants have described, the present invention discloses β-(1,3) glucans consisting of a β-(1,3) backbone with β-(1,3) side-chains linked to carbon 6 of the

backbone glucose units. Preferably, all side chains should exclusively show (1,3) linkages which is supported in page 2, lines 25-26 of the specification. Therefore, the Zulli et al. reference and the present disclosure do not teach the same glucan, which glucan is presently claimed.

The Examiner states that the Weitkemper et al. reference teaches that chitosans of varying molecular weights are within the scope of the present claims, including carboxylated and succinilated chitosans are known to be useful in cosmetic preparation. Therefore, it would have been obvious for one skilled in the art at the time the invention was made to provide a cosmetic preparation containing water-soluble β-(1,3) glucans and chitosans by combining the teachings of the two references. The presently claimed invention produces synergistic effects in both skin aging and roughness after 7-14 days, as shown in Applicants' examples. For example, at 7 days, the purely additive effect should produce a 5 percentage point reduction in skin aging, while the observed values are 9 and 8 days depending upon the chitosan use as shown in Table 1 of the present application. Clearly, the Weitkemper et al. reference does not teach or suggest the present invention, taken alone or in combination with the Zulli et al. reference.

The Examiner states that the Leuba et al. and Teslenko et al. references are cited to indicate the state of the art at the time the invention was made. The Examiner believes the Leuba et al. reference teaches that chitosan may be added to preparations to inhibit the growth of microorganisms. The Examiner states that the Teslenko et al. reference teaches preparation of chitosan-glucan complexes from biological sources. None of these publications, including the Weitkemper et al. reference, teaches applications directed against skin aging or roughness. The Weitkemper et al. reference only states that chitosans are "capable of interacting with oppositely charged surfaces and are therefore used in cosmetic hair care and body-care products". The Leuba et al. reference identifies chitosan as a bacterial agent in cosmetics, while the Teslenko et al. reference claims methods for wound healing and enterosorption involving chitosan-glucan complexes. None of the references teach or suggests a composition containing chitosan that is used in the treatment of aging of the skin and skin roughness as is currently claimed in the present application. Therefore, the Leuba et al. and Teslenko et

al. references do not teach or suggest the present invention, taken alone or in combination with the Zulli et al. and Weitkemper et al. references.

The Examiner has noted the examples as presented in Table 1 of the current application, wherein the aging of the skin and the roughness of the skin are treated after administration of compositions containing chitosan and/or β-(1,3) glucans in varying amounts. The Examiner believes that the data do not provide adequate evidence of synergistic results because the measurements were made relative to skin condition as it existed at the outset of the treatment wherein there does not appear to have been any objective assessment of the skin condition before the treatment was started. The frame of reference for the examples was the depth, number and length of skin wrinkles on the day before the beginning of exposure was set, which equaled a standard of 100%. All the following measurements from that time were based on this standard. Further, the same frame of reference was used for the evaluation of skin roughness whereas 0="unchanged" to 3="strongly improved". The invention relates to the use of β-(1,3) glucans with chitosans in cosmetic preparations and in the method of treating aging of the skin and skin roughness. The comparative examples that use chitosan alone without the glucan had varied results to those preparations using the glucan alone, or the glucan in combination with the chitosan.

In summary, the references do not render obvious the present invention for many reasons, including:

1) The Zulli et al. reference and the presently claimed invention do not teach the same type of glucan.

2) The Weitkemper et al. reference teaches a hypocholestromic composition involving chitosan as a potentiating agent. The Weitkemper et al. reference may suggest the use of chitosans in a cosmetic, but fails to specify any function or effects of the use of chitosan as well as listing many other ingredients, none of which is the glucan presently claimed by Applicants.

3) The Leuba et al. and Teslenko et al. references describe applications of chitosan and chitosan-glucan complexes respectively. The Leuba et al. reference discloses chitosan as a preservative in cosmetics, while the Teslenko et al. reference describes pharmaceutical applications of chitosan-glucan complexes in wound healing

and enterosorption. None of these references teaches the composition and methods of treatment claimed in the current application. The combination of the references would not make a skilled worker able to predict that branched β-(1,3) glucans in combination with chitosans produce synergistic effects on skin aging and skin roughness the first 14 days or more of treatment.

The claims of the present invention meet the requirement of 35 United States Code, and therefore, and early Notice of Allowance of the above-identified application is respectfully requested.

Respectfully submitted,

Date: June 11, 2003

Signature of Attorney
W. Dennis Drehkoff
Ladas & Parry
224 South Michigan Avenue
Chicago Illinois 60604
Tel. No. (312) 427-1300
Reg. No. 27193